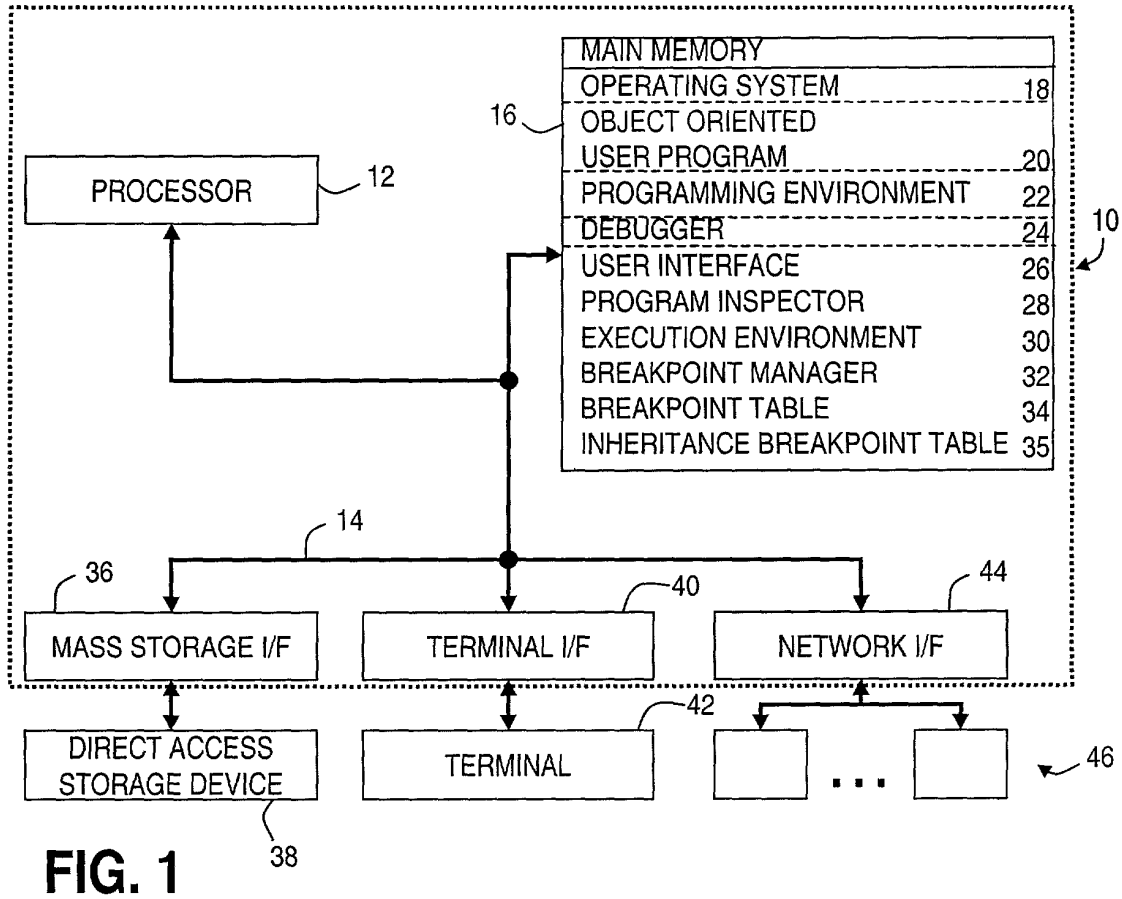
MAIN MEMORY
OPERATING SYSTEM 18
OBJECT ORIENTED USER PROGRAM 20
PROGRAMMING ENVIRONMENT 22
DEBUGGER 24
USER INTERFACE 26
PROGRAM INSPECTOR 28
EXECUTION ENVIRONMENT 30
BREAKPOINT MANAGER 32
BREAKPOINT TABLE 34
INHERITANCE BREAKPOINT TABLE 35
16
PROCESSOR
12
10
14
36
40
44
MASS STORAGE I/F
TERMINAL I/F
NETWORK I/F
42
DIRECT ACCESS STORAGE DEVICE
TERMINAL
46
38

FIG. 1

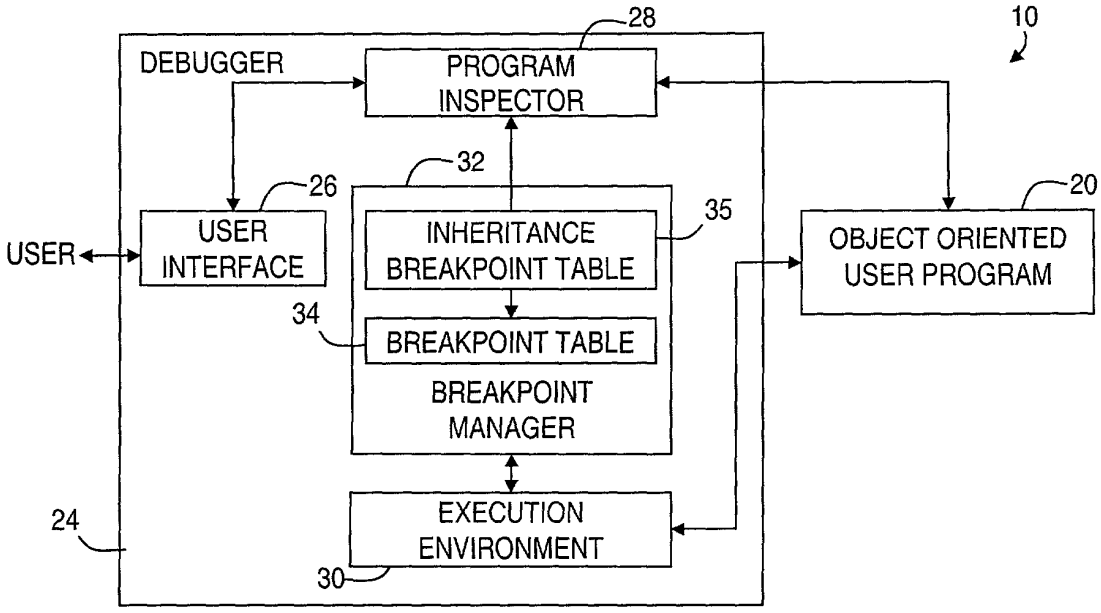
10
28
DEBUGGER
PROGRAM INSPECTOR
32
26
20
USER
USER INTERFACE
INHERITANCE BREAKPOINT TABLE
35
OBJECT ORIENTED USER PROGRAM
34
BREAKPOINT TABLE
BREAKPOINT MANAGER
24
EXECUTION ENVIRONMENT
30

FIG. 2

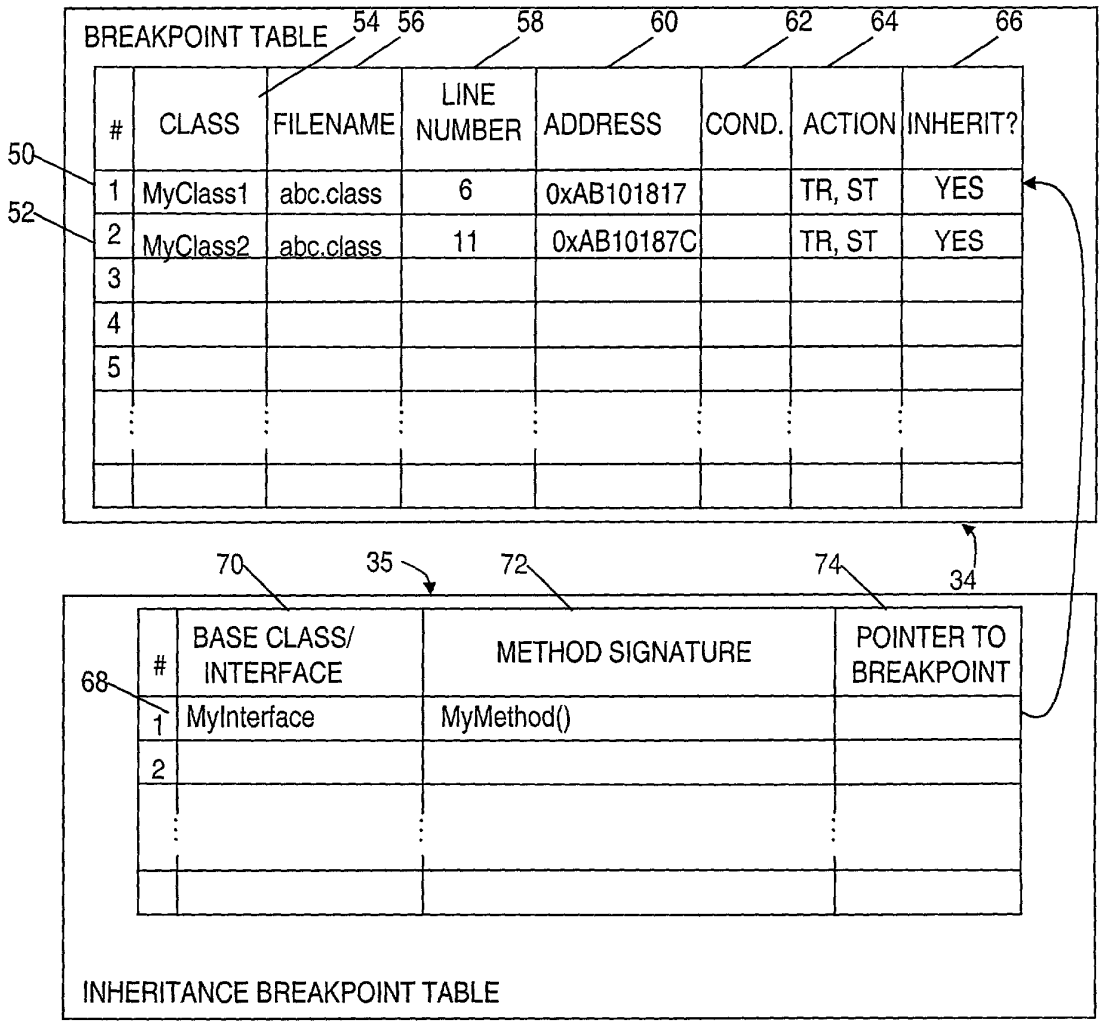
BREAKPOINT TABLE
54
56
58
60
62
64
66
#
CLASS
FILENAME
LINE NUMBER
ADDRESS
COND.
ACTION
INHERIT?
50
52
1
MyClass1
abc.class
6
0xAB101817
TR, ST
YES
2
MyClass2
abc.class
11
0xAB10187C
TR, ST
YES
3
4
5
70
35
72
74
34
68
#
BASE CLASS/ INTERFACE
METHOD SIGNATURE
POINTER TO BREAKPOINT
1
MyInterface
MyMethod()
2
INHERITANCE BREAKPOINT TABLE

FIG. 3

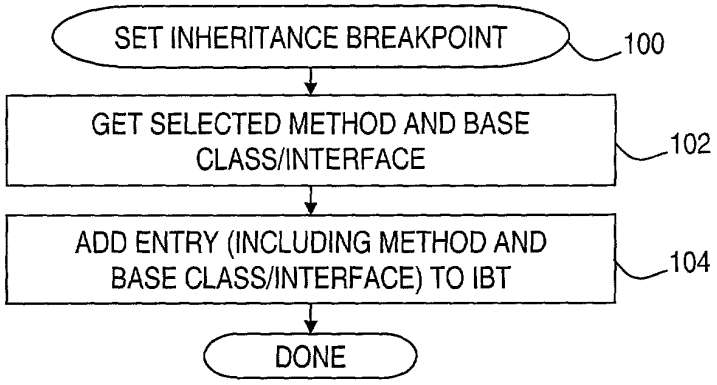

FIG. 4

FOSTER-FOSTER

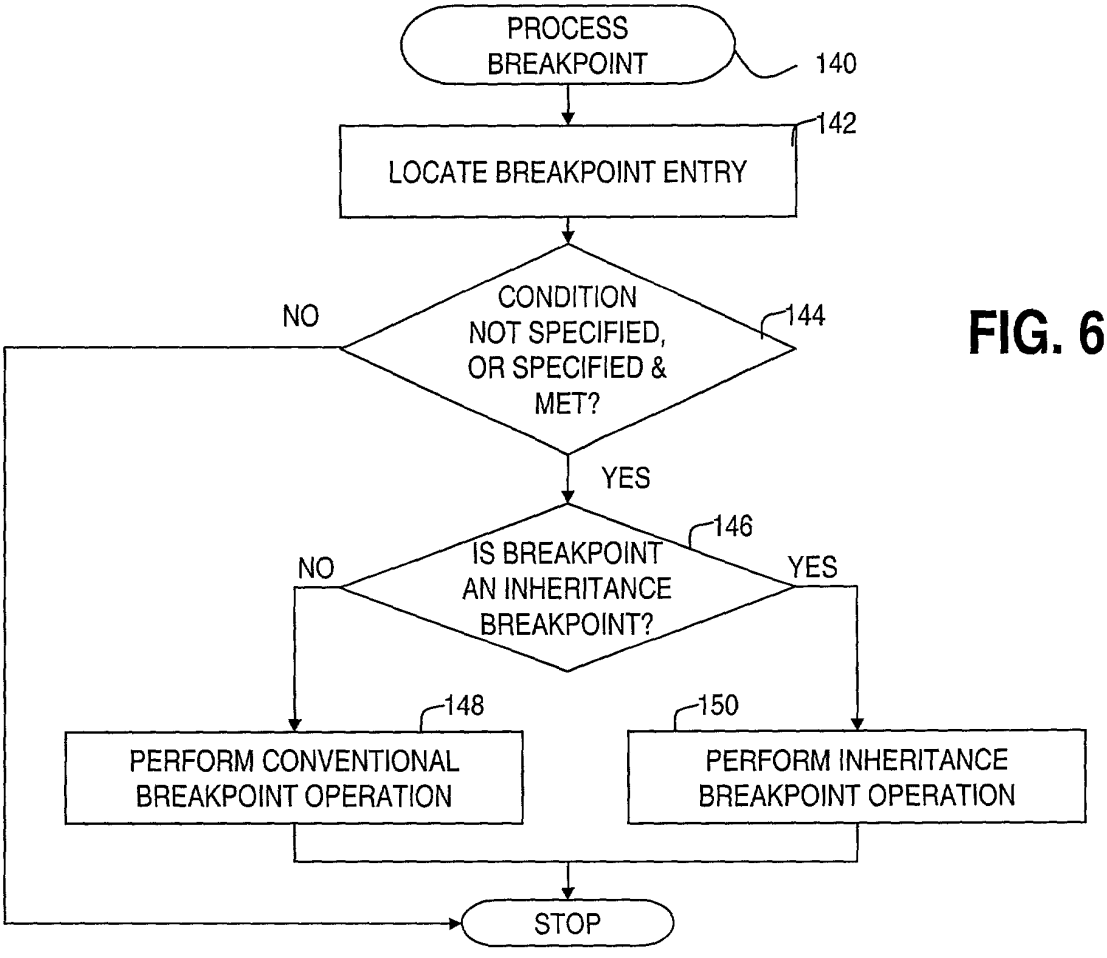

FIG. 6

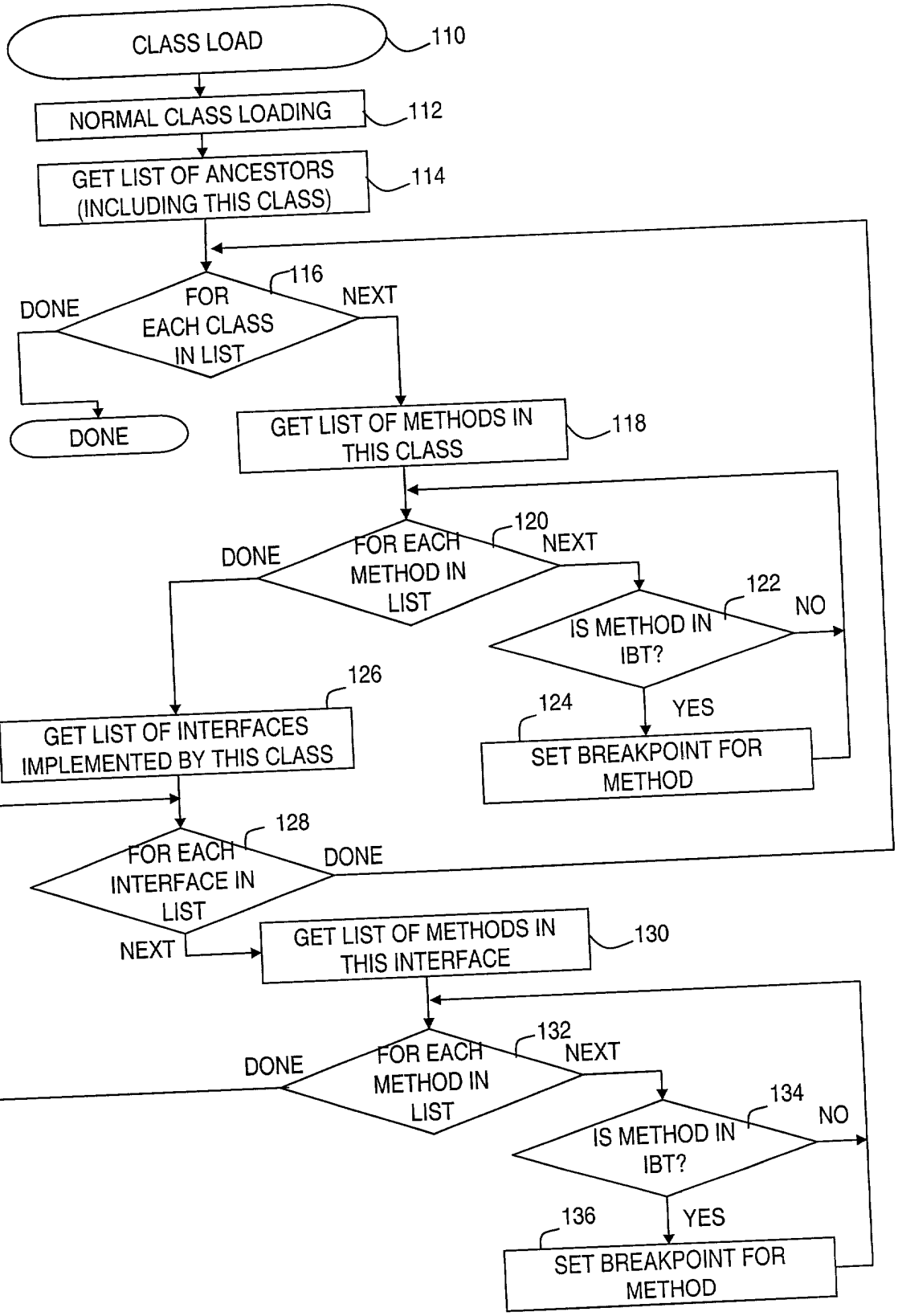
CLASS LOAD
110
NORMAL CLASS LOADING
112
GET LIST OF ANCESTORS (INCLUDING THIS CLASS)
114
116
FOR EACH CLASS IN LIST
DONE
NEXT
DONE
GET LIST OF METHODS IN THIS CLASS
118
120
FOR EACH METHOD IN LIST
DONE
NEXT
122
IS METHOD IN IBT?
NO
YES
124
SET BREAKPOINT FOR METHOD
126
GET LIST OF INTERFACES IMPLEMENTED BY THIS CLASS
128
FOR EACH INTERFACE IN LIST
DONE
NEXT
GET LIST OF METHODS IN THIS INTERFACE
130
132
FOR EACH METHOD IN LIST
DONE
NEXT
134
IS METHOD IN IBT?
NO
YES
136
SET BREAKPOINT FOR METHOD

FIG. 5

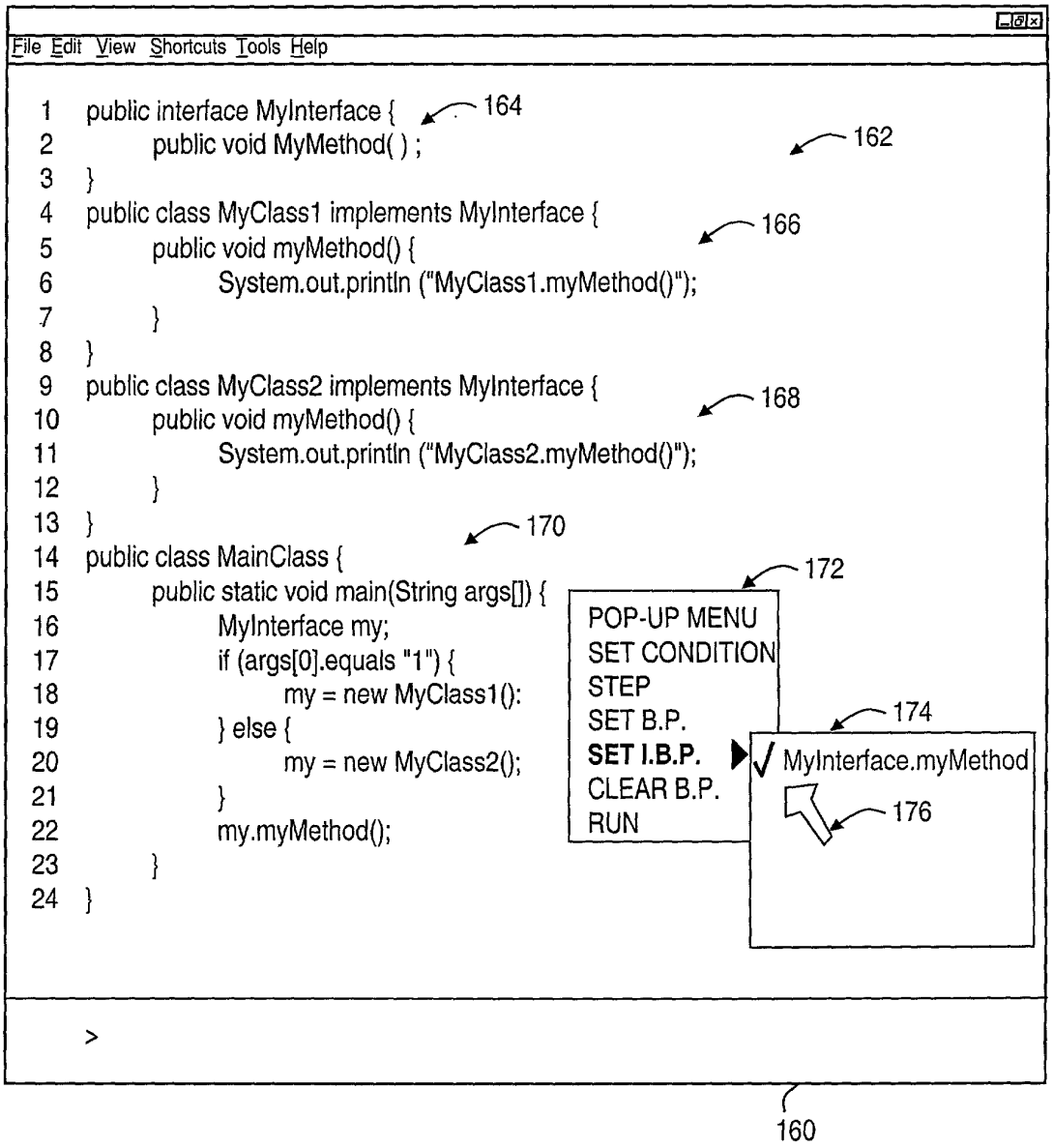
File Edit View Shortcuts Tools Help
1 public interface MyInterface {
2 public void MyMethod( ) ;
3 }
4 public class MyClass1 implements MyInterface {
5 public void myMethod() {
6 System.out.println ("MyClass1.myMethod()");
7 }
8 }
9 public class MyClass2 implements MyInterface {
10 public void myMethod() {
11 System.out.println ("MyClass2.myMethod()");
12 }
13 }
14 public class MainClass {
15 public static void main(String args[]) {
16 MyInterface my;
17 if (args[0].equals "1") {
18 my = new MyClass1():
19 } else {
20 my = new MyClass2();
21 }
22 my.myMethod();
23 }
24 }
164
162
166
168
170
172
POP-UP MENU
SET CONDITION
STEP
SET B.P.
SET I.B.P.
CLEAR B.P.
RUN
174
MyInterface.myMethod
176
>
160

FIG. 7